

Loops

Code Girls 2021-22





What we know and what we are going to focus on today.

We know

- Basic syntax
- Conditionals

Today's Focus:

- For loops
- While loops





Hypothetical Situation

We know how to output “x”:

```
print("x")
```

But what if we wanted to print “x”... a bunch of times???

- If it is a few number of times, maybe we could repeat the command
- But that is a lot of work
- If only there was a better way



Introducing “FOR LOOPS”!

A “for loop” is used for iterating over a sequence.

Basic syntax:

```
for [variable name] in [define a range]:  
    [statement]
```



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Introducing “While LOOPS”!

A “while loop” is used for iterating over a sequence.

Basic syntax:

```
while [condition]:
```

```
    [do something]
```



Practice - Die Roller Loops

Previously, we created a program to roll a die once. Now with loops, we can give the user the option to roll as many times as they would like!

Replit link:

<https://replit.com/@CodeGirls1/21-22-Python-Lecture-3-Die-Roller-Loops?v=1>



Bringing it all together: if/elif/else, for loops and while loops.

Using what we have learned so far, we are going to create a calculator with 6 functions: +, -, /, *, average, factorial.

Stipulations:

- If the user wants to do +, -, /, or *, we will only take two inputs
- If the user wants to do average, we will take as many inputs as the user wants
- If the user wants to do factorial, we will only take one input
- If the user wants to quit, they just have to enter “q”

Replit link:

<https://replit.com/@CodeGirls1/21-22-Python-Lecture-3-Calculator?v=1>



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